

COMMONWEALTH OF AUSTRALIA

PATENT SPECIFICATION

7008/61

Complete Specification Lodged 16th July, 1962.

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Classification 54. 18.

International Classification G 09 f.

Drawing attached.

COMPLETE SPECIFICATION.

IMPROVEMENTS IN OR RELATING TO ADVERTISING AND LIKE SIGNS.

The following statement is a full description of this invention, including the best method of performing it known to us:-

This invention relates to advertising and like signs of the kind wherein legendary, pictorial or other matter printed, stencilled, etched or otherwise formed on a transparent or translucent display panel or panels is made visible by means of a luminous source arranged to shine through the panel(s). Such signs will be referred to hereinafter as of the kind indicated.

It is well known that an animated sign is capable of drawing and holding the attention more effectively than a display which remains still. However prior attempts to provide animated advertisements, whether the movement is real or illusory, have generally required relatively complex and bulky apparatus including neon tubes and switching circuits and the like, and are often inconvenient to install and maintain, and usually require a good deal of periodic attention if they are to be kept in proper working order.

It is an object of this invention to provide an advertising sign of the kind indicated which is relatively simple in construction, contains few working parts liable to derangement or require frequent attention, adjustment or replacement, and which is capable of providing in a comparatively small space, animated illusions of a novel and striking character for arresting and directing the attention of the observer to legendary, pictorial or other matter advertised on the sign.

The above and other objects and advantages will become apparent hereinafter. According to the present invention, an advertising or like sign of the kind

indicated comprises a generally rectangular housing, a rectangular screen adapted to be illuminated by the luminous source, the screen being movably mounted within the housing for non-rotational, circular movement of small radius in its own plane and bearing, in a border portion defined by the perimeter of the screen and an inner concentric rectangle having sides parallel to those of the screen, a pattern in the form of a series of circular arcs concentric with the screen and substantially symmetrical about its major and minor axes, a transparent or translucent rectangular plate detachably mounted in an open front portion of the housing substantially parallel to the screen and having its centre substantially on the axis of said circular movement, the plate having a border portion defined by the perimeter of the plate and an inner concentric rectangle having sides parallel to those of the plate, said plate border portion being of substantially the same width as the border portion of the screen and being formed with a corresponding circularly arcuate pattern of corrugated or curved ridges which form a lens, the central portion of the plate being reserved for display or like matter, the radius of said circular movement being such as to afford, when the screen is viewed through the lens, a gross illusion of a colour pattern rotating about the centre of the sign.

But in order that the invention may be better understood, reference will now be made to the accompanying drawings which are to be considered as part of this specification and read herewith. In the drawings:

Figure 1 shows an axial section of a preferred form of advertising sign in accordance with this invention;

Figure 2 is a plan view of a screen forming part of the sign illustrated in Figure 1;

Figure 3 is a plan view of a front plate also forming part of the sign illustrated in Figure 1, and

Figure 4 is a cross-section of a border lens portion across IV-IV of the plate shown in Figure 3.

The advertising sign illustrated includes a housing 5 of sheet metal or any other appropriate material and of substantially rectangular plan having a generally transparent or translucent plate 6 (Figs. 3 and 4) of glass, plastic or other suitable substance, detachably mounted in an open front portion of housing 5, for example by means of a removable retaining flange or frame 7 adapted to be fastened to the front of the housing by screws 8 or any other appropriate means.

A border portion 9 of plate 6 is formed as a lens, the remaining central portion 10 being reserved for display or like matter to be advertised. Accommodated within housing 5 is a screen 11 which is also of generally transparent or translucent material such as glass, plastic or the like and of shape similar to that of plate 6. Screen 11 is movably mounted in substantially parallel, and preferably closely spaced, relationship with plate 6 and adapted for non-rotational movement relatively thereto, such that any point on the screen may be regarded as traversing a substantially circular path of relatively small radius. For this purpose the screen may be operatively connected through an appropriate drive to an electric motor, represented schematically by 12, or other source of power. To the output shaft 13 of drive motor 12 may be attached an eccentric pin 14 fixed substantially parallel to the shaft and upon which the screen 11 is loosely mounted such as by boss 15.

Screen 11 may be illuminated in any desired manner, for example by one or more clear or coloured electric light bulbs, or preferably by a fluorescent tube 16 arranged around whole or part of the interior of housing 5. The luminous tube 16 is advantageously located out of the direct line of vision of the observer.

As will be seen from the drawing, pattern 17 occupies a border portion of screen 11 defined by the perimeter of the screen and an inner concentric rectangle having sides parallel to the screen. The border portion 9 of plate 6 corresponds to the border portion of the screen. The remainder 18 of the screen being substantially devoid of pattern to permit of a clear illumination for portion 10 of plate 6 on which it will generally be desired to display matter to be advertised.

The colour pattern in portion 17 of screen 11 comprises a plurality of multi-coloured arcuate bands 19 disposed around the border. These arcuate bands are symmetrically disposed about the principal axes in the plane of the screen, and the arcs are substantially circular and concentric with the rectangular screen itself. The corresponding border portion 9 constituting the lens of plate 6 has one or both of its surfaces formed as a series of side by side arcuate humps or curved ridges 20 which when seen in plan as in Fig. 3, exhibit a pattern or contour corresponding to the pattern on the screen VIZ, a series of substantially circular arcs concentric with the screen and substantially symmetrical pattern about the principal axes of the rectangular plate. With particular reference to Figure 4, the arcuate humps 20 may be substantially part-circular in cross-section, the arcs being of substantially equal curvature, the humps or ridges being advantageously so disposed that when seen in cross-section (Fig. 4) they appear as a series of similar, circular arcs joined end to end. The curvature of these arcs is preferably much greater than the curvature of the ridges when viewed in plan (as in Figure 3). The ridges themselves provide arcuate corrugations which, in plan, preferably correspond to the curvature of the arcuate colour bands in the corresponding portion of the screen.

It is found that when such a colour pattern is given a substantially circular translational motion or agitation of relatively small radius, i. e. of radius comparable with the spacing between successive ridges in the lens described above, there is obtained an illusion of a continuous, complete rotation of the screen within the housing. The effect is the more remarkable as the observer seem to be viewing a relatively large disc or body which is apparently contained in a box or housing of relatively small height.

It will be evident that various other configurations of lens and/or screen may be used. For example, the housing may be circular in plan, and the lens and colour pattern of annular form whereby a variety of effects may be produced using various dispositions of colour and various kinds of continuous or intermittent movement of the screen.

It is found that a sign in accordance with this invention is capable of displaying animated effects which appear to be quite unrelated to the kind of movement given to the screen and which seem to the observer to be striking in their apparent inconsistency with the size and/or shape of the housing within which the sign is accommodated.

It will further be evident that a sign in accordance with this invention is comparatively simple in construction and permits of novel and striking optical effects without necessitating complex or bulky mechanism.

The claims defining the invention are as follows :-

1. An advertising or like sign of the kind indicated comprising a generally rectangular housing, a rectangular screen adapted to be illuminated by the luminous source, the screen being movably mounted within the housing for non-rotational, circular movement of small radius in its own plane and bearing, in a border portion defined by the perimeter of the screen and an inner concentric rectangle having sides parallel to those of the screen, a pattern in the form of a series of circular arcs concentric with the screen and

substantially symmetrical about its major and minor axes, a transparent or translucent rectangular plate detachably mounted in an open front portion of the housing substantially parallel to the screen and having its centre substantially on the axis of said circular movement, the plate having a border portion defined by the perimeter of the plate and an inner concentric rectangle having sides parallel to those of the plate, said plate border portion being of substantially the same width as the border portion of the screen and being formed with a corresponding circularly arcuate pattern of corrugations or curved ridges which form a lens, the central portion of the plate being reserved for display or like matter, the radius of said circular movement being such as to afford, when the screen is viewed through the lens, a gross illusion of a colour pattern rotating about the centre of the sign. (17th July, 1961).

2. An advertising or like sign as claimed in claim 1 wherein the screen is also transparent or translucent, the luminous source being located behind the screen. (17th July, 1961).

3. An advertising or like sign as claimed in claim 1 or claim 2 wherein the lens ridges when viewed in cross-section, appear as a series of substantially similar, circular arcs joined end to end and having a curvature substantially larger than that of the ridges when viewed in plan. (17th July, 1961).

4. An advertising or like sign substantially as herein described with reference to the accompanying drawings. (17th July, 1961).

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Patent Attorneys for Applicant.

Related Art:

| <u>Serial No.</u> | <u>Application No.</u> | <u>Classification.</u> |
|-------------------|------------------------|------------------------|
| --- | 16,858/34 | 54.18 |
| --- | 23,898/53 | 54.18 |
| --- | 1550/31 | 54.18. |

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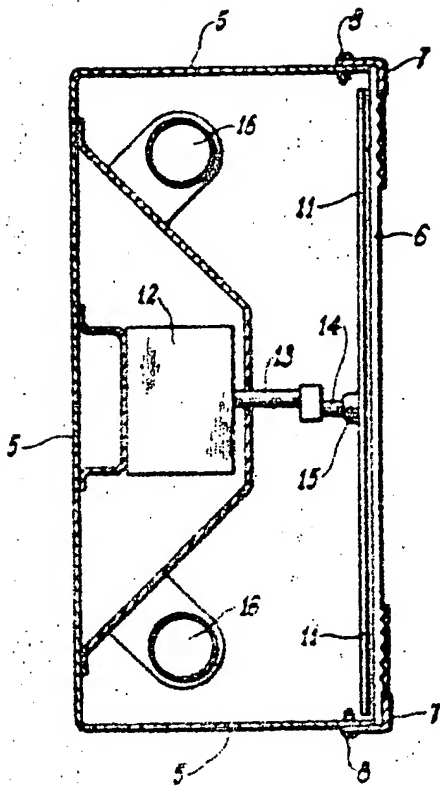


Fig 1



Fig 4

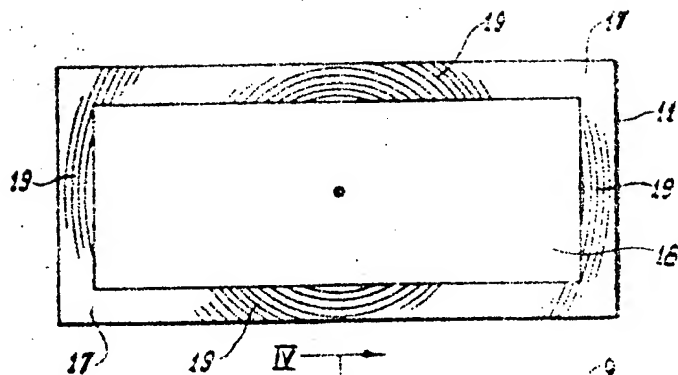


Fig 2

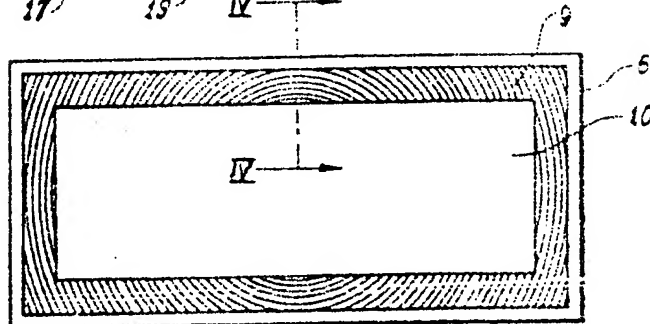


Fig 3